# *RFI Responses from Industry*

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# Introduction

- **Provide feedback of industry responses to the JTRS Request for Information (RFI)**

- **Review**
  - *RFI contained six (6) multi-part questions*
  - *Received seventeen (17) responses*

- **Outline**
  - *Question 1: Consortium*
  - *Question 2: Schedule*
  - *Question 3: Consortium Results*
  - *Question 4: Strategy*
  - *Question 5: Architecture Specificity*
  - *Question 6: Business And Technology Perspectives*

# Question 1: Consortium and IPT Structure

- **A majority felt that the consortium should be "self forming" with top-level government direction to ensure success.**

- **Larger companies tended to favor a self-forming consortium and smaller companies tended to favor a government-directed consortium.**

- **Industry responded favorably to the proposed IPT structure with some minor modifications or additions, including adding the following:**
  - *Integration or Overarching* **
  - *Requirements*
  - *Security* **
  - *Network*
  - *Logistics*

** Important

# Question 1: Consortium Procedures and Membership

- **Overall responses favored the establishment of an overarching IPT chaired by the Government**
- **Exit criteria should be established to move past the architecture definition phase versus working against a pre-set schedule**
- **Actual logical groupings are less important than making sure that**
  - *there is good group diversity*
  - *there is cross IPT information flow*
  - *the process is open*
  - *Government is involved in the process*

# Question 2: Schedule

- **An architecture can be defined within six months**
  - *Depends on the level of detail required*
  - *Validation by simulation makes the schedule possible, but may not be sufficient to prove the architecture*
  - *Close cooperation required from all participants*
  - *May require leveraging existing software radio architecture definition efforts*
  - *Cost sharing arrangement is not a schedule impediment*

- **Only a few respondents directly stated that the architecture could not be defined in six month**
  - *Answers ranged from 3 to 24 months, with various alternatives*
  - *The is a need for a requirements IPT to clearly define the requirements before the consortium work can begin*
  - *Use of event or exit based criteria was judged to be superior to using a schedule criteria*

# Question 2: Cost Sharing

- **Most generally agreed that the proposed cost sharing arrangement was reasonable**
- **The current cost sharing approach favors large companies and may inhibit participation of smaller companies**
- **Government unique INFOSEC development costs should be government funded**
- **Industry will invest (cost share) in proportion to the perceived return on investment**
- **Need a clear business case for industry involvement to accelerate the architecture**

# Question 2: Schedule

- **Which of the following efforts best describes industry's capability to use the expected consortium products?**

  *A. A laboratory demonstration of architecture compliant components.*

  *B. A laboratory demonstration of an architecture compliant system by a company or team.*

  *C. A laboratory demonstration of an architecture compliant system using components from a number of different sources (plug and play).*

Consensus was Choice "C"

- **A credible demonstration is unlikely within 6 months**

- **Demonstration should be a separate phase with a separate schedule**

# Question 3: Consortium Results

**Which of the following outcomes do you believe to be the most realistic? Why? What can be done to promote a result closer to outcome A rather than outcome D?**

A. *The majority (define a majority) of industry agrees to a JTRS architecture.*

B. *More than two companies, industry teams, or a combination agree to an architecture. This provides an immediate competitive base for COTS procurements.*

C. *The consortium effort develops multiple architectures with no clear consensus. The government then selects an architecture from one of those candidate architectures.*

D. *The consortium effort fails. The government develops an architecture.*

- **Respondents predicted outcome "B" twice as often as either outcome "A" or outcome "C".**

# Question 3: JTRS Architecture Evaluation Criteria

- **A wide variety of responses:**
  - *Applicability across domains - Ability to meet ORD requirements*
  - *Legacy system support - Lowered lifecycle costs*
  - *Software Portability*
  - *Greybeard evaluation - Ability to receive NSA*
  - *Ability to support all waveforms Certification*
  - *Prototype demonstration*
  - *Flexibility and ability to accept technology insertions*

- **No clear consensus on criteria to evaluate a JTRS architecture**

# Question 3: Minimum Core Architecture Standards

- **The following are key to the development of a minimum set of core standards to define the JTRS architecture:**
  - *Specificity in partitioning functional blocks, interface controls, application program interfaces, external interfaces, INFOSEC requirements*
  - *Flexible standards for hardware design*
  - *Modularity in hardware and software*
  - *Alignment with standards already in use by industry or international forums/committees*

# Question 4: Strategy Comments

- **An 18 month cycle for increment upgrade or spiral development is overly aggressive and probably not achievable**
- **Business as usual will not work**

**“If this becomes business as usual,
our first JTR will be fielded in
20 years and have today’s technology.”**

# Question 4: Strategy Alternatives

- *Adopt JTRS architectures and requirements into legacy products*
- *Revise the schedule for 24 to 36 months for development and fielding*
- *Use existing contractual vehicles for development and procurement*
- *Use IDIQ contracts for each domain*
- *Use close government and industry cooperation through all phases of the development and procurement*

- **Adjustments to the proposed JTRS acquisition strategy are necessary for success**

# Question 5: Architecture Perspectives

- **Need more perspectives:**

| | |
|---|---|
| *Operational ** | *System engineering* |
| *INFOSEC ** | *Environmental* |
| *Integration* | *Built-in test* |
| *Procurement* | *Life cycle support* |
| *Maintenance* | |

**** Operational and INFOSEC perspectives are critical to program success**

# Question 5: Architecture Specificity

- All agreed with the need for a single architecture
- Achieving “Plug and Play” requires very specific and detailed description of hardware and software interfaces
- Some degree of hardware independence is possible, but complete independence is not possible at this time
- The architecture should have little or no operational impact.
- A good architecture could lower acquisition/life

***The architecture will play a key role in determining whether or not JTRS increment one avoids becoming a legacy system***

# Question 5: Impediments to Waveform Portability

- **Impediments to waveform portability:**
  - *Cost*
  - *Intellectual property rights (licensing issue)*
  - *Physical size/weight*
  - *Insufficient documentation/specifications*
  - *Electrical and RF power limitations*
  - *Dissimilar intermediate frequencies*
  - *RF component design and RF propagation physics*
  - *Software and waveform tool availability*

# Question 5: Roadblocks to a Single Architecture

- **Some roadblocks to defining single JTRS architecture are:**
  - *Different hardware requirements and form factors for the different domains*
  - *Hardware and software architectures that may evolve separately*
  - *Dependencies on hardware and platform requirements*
  - *Reluctance by vendors to modify existing designs to be JTRS compliant*
  - *Designing to achieve high mobility or high technical performance*
- **The single major roadblock was the wide variance in size and power between the different domains ranging from small hand held to base-station radios**

# Question 5: Level of Detail in Architecture

- **Not sure where the line is, but need to ensure open architecture and software portability while preserving design freedom.**

- **Proposals for where to draw the line:**

  - *Hardware - The interface to the circuit card assembly (CCA)*

  - *Software - Many non-responses, several vague suggestions to*

    *"software modules"*

# Question 6: Business And Technology Perspectives

- **Everyone wants to participate, but there is still a wait and see attitude regarding business case**
- **JTRS has military only content not applicable to the commercial sector**
  - *Military should fund military unique aspects of JTR*
  - *Respondents are generally not willing to fund the prototype development themselves, especially if the concept requires multiple vendor products to work together seamlessly*
- **There are still significant technological hurdles to be overcome. PMCS identified risk areas are still valid.**
- **Vendors believe that their products can be made JTRS compliant within 6 to 24 months**

# Question 6: Level Playing Field

- **Many suggestions:**
  - *Issuance of multiple competitive awards per domain*
  - *Procurement by plug and play modules from different vendors*
  - *Government qualify a sufficient number of companies early in the program*
  - *Equal and fair access to technical documents*
  - *Issuance of multiple IDIQ contracts*
  - *Use of pass/fail evaluation criteria for procurements*
  - *Avoiding the inclusion of proprietary technology or content in the architecture*
- ***There is industry wide concern that the JTRS architecture development and future acquisitions start off as fair as possible because of the potential to drive companies out of business.***

# Question 6: Waveform Ownership

- **Possibilities:**
  - *One time payment*
  - *Licensing agreements or fees*
  - *Royalties*
  - *Compensation for past investment and forseeable future potential income*
- ***Income from licensing or selling the waveform should replace current projected income streams.***

# Conclusion

- **The RFI responses provided valuable feedback on what industry is thinking.**
- **The Software RFI will be incorporated into the solicitation**
- **Thank you for your responses**